(19) JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **06232408 A**

(43) Date of publication of application: **19.08.94**

(51) Int. Cl **H01L 29/784**
H01L 21/336

(21) Application number: **05014385**

(22) Date of filing: **01.02.93**

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(54) MANUFACTURE OF INSULATED-GATE FIELD-EFFECT TRANSISTOR

(57) Abstract:

PURPOSE: To provide an insulated-gate field-effect transistor in which the variation of a threshold voltage is small by forming with dry oxidation a thin silicon oxide film covering the whole thereof at the time of ion implantation.

CONSTITUTION: A P-type silicon layer 2 is grown on a P^+-type silicon substrate to constitute a silicon substrate 18, and in the surface thereof is formed a gate silicon oxide film 3, and it is quickly nitrified by a lamp anneal device successively to quickly perform dry oxidation. And then an opening part 19 is formed in a layered product, and an N-type impurity is introduced into a silicon layer 2 by using as a mask the polysilicon 4 having the structure of a gate electrode to form an N-type base region 5, and an N^+-type back gate region 6 for a contact part is formed in the central part thereof. Therefore, an insulating film is so formed as to cover the upper surface and the side surface and the whole surface of the N-type base region including the N^+-type back gate region 6, thereby reducing the shifting of the threshold voltage of an IGFET and stabilizing the characteristics.